

## MISCELLANEOUS.

*Note on Puffinus major, Faber. Greater Shearwater.* By W. Thompson, Esq.

In June 1837 I exhibited, at a meeting of the Zoological Society, an example of a shearwater which had been obtained in Ireland, and applied to it the scientific appellation of *Procellaria Puffinus*, Linn. (see Proceedings, 1837, p. 54). In the fourth part of the 'Manuel d'Ornithologie,' p. 507, published in 1840, Temminck has shown that this name has been applied to two species—the one frequenting the more northern, the other the more southern seas of Europe. He refers the only specimen recorded as having been obtained on the shores of Great Britain, and figured by Mr. Selby, to the northern one, *P. major*, Faber, and the object of the present communication is to state that examples procured in Ireland are likewise identical with it. Two or three species of *Puffinus* approach each other so nearly, that from the descriptions alone I could hardly have spoken with certainty as to this point; but Temminck having referred to Mr. Selby's plate of *P. cinereus* as representing *P. major*, Fab., enables me to do so, as that plate is admirably characteristic of an Irish specimen of the bird now before me\*. This is the second obtained in Ireland, and both by Mr. Robert Davis, jun., of Clonmel. This specimen was received alive on the 19th September, 1839, by that gentleman, who then informed me that "it was taken one or two miles outside Dungarvan [co. Waterford], by a person fishing for hake [*Merluccius vulgaris*], with a hook and line, it having taken his bait. I kept it alive for about a week, but not having a suitable place for that purpose, killed it and set it up. As well as I can recollect the former specimen, this resembled it in every respect. It was however more lively, and ran along very rapidly with the breast about an inch and a half from the ground. Having on one occasion put it on a roof, it seemed to be more at ease on the inclined plane afforded by that situation than on a flat surface; it mounted rapidly to the top, though when it came to the edge, no attempt to fly was made, and it fell heavily to the ground. It rarely stirred at all during the day, but kept itself as much concealed as possible, and if it could not hide its body, would endeavour to conceal its head." After visiting Dungarvan in the summer of 1840, Mr. Davis wrote me to the following effect:—"It would seem that some of my statements respecting the first specimen are not correct [see Zoological Proceedings, as before quoted] as regards its capture. The species is never met with near the shore, but only far out, and is occasionally taken on the hook and line employed in hake-fishing. The fishermen sometimes keep them for weeks about their houses, and in some instances they have become tame; they never attempt to fly. A man had one a few days before I went there, but had killed it with dogs on a piece of water. It does not appear that the Manks shearwater is ever seen, nor could

\* Mr. Selby remarks that his specimen "appears to be a bird of the year;" so probably is the bird under consideration; but the brief description of the female given by Temminck equally applies to it.

I ascertain that a shearwater was ever shot, but always taken with a hook. As before mentioned, they are commonly known by the name of *Hagdowns*."

Had I been aware, in accepting of Mr. Davis's kind offer to send his second specimen of this bird for my examination, that the former one was in England, and could be seen by my friend Mr. Yarrell, I should have left it to him to notice the subject; but having received the specimen and found corrections on my former notice necessary, they are here communicated. The same letter which announced that the bird had been despatched to Belfast, informed me that Mr. Yarrell had seen the former one, and was disposed to consider it *Puffinus major*, Fab.

So little is known respecting this species as an inhabitant of our seas, that I am induced to add the following. Mr. R. Ball, when dredging off Bundoran, on the west coast of Ireland (in company with Mr. E. Forbes and Mr. Hyndman), on the 16th of July, 1840, saw three petrels on wing near to him which he believed to be of this species. On my submitting Mr. Davis's specimen to Mr. Ball's inspection, he stated, that "the Bundoran birds exhibited some whiteness, which was confined to the ventral or rather anal portion, and which the specimen does not present; but such difference may be consequent on age." Mr. Ball continues: "they appear to me to be much more dusky than the Manks petrel, of which I have a specimen, and have seen several on wing when crossing the sea from Dublin to England. These were all, I think, smaller than the Bundoran birds, and the white part of their plumage was particularly conspicuous."

#### STERNA ARCTICA.

*To Richard Taylor, Esq.*

SIR,—In the Annals and Magazine of Natural History for the present month, the unusual circumstance is noticed of considerable numbers of *Sterna arctica*?, a bird essentially aquatic in its habits, having appeared at various places more or less remote from the sea, more particularly in the southern and western parts of England.

The account of the rarity of such an occurrence is accompanied by observations on the probability of the birds having been driven in from sea by the westerly gales which prevailed on the 7th and 8th of May, when "on their return to the northern regions after a winter sojourn in the south."

These last observations have induced me to trouble you with this communication, for the purpose of pointing out the improbability of such conjecture, as far as relates to their return to the "northern regions."

That the birds were driven inland by stress of weather admits of little doubt; but there is no evidence of their flight having been directed towards the polar regions, as suggested by your correspondent. On the contrary, there is very great doubt as to the birds in question being really the *Sterna arctica*, for all those specimens which were captured here and came under my observation belong to a

different species (*S. Hirundo*), which species is a very common bird on our own coasts, as also on the southern and eastern shores of Ireland, where they are regular summer visitors, generally arriving about the 10th of May and retiring the latter end of October.

Along the coasts of Wexford and Waterford they are called "mackerel gulls," owing, I imagine, to the circumstance of their generally preceding the arrival of that fish, as well as the immense shoals of the *Centronotus Trachurus* (horse mackerel, Yarr. Brit. Fish. vol. i. p. 154), which spread themselves along the eastern shores of Ireland.

They (the birds) are probably attracted by the myriads of small fry which the horse-mackerel pursue with astonishing perseverance, the fry aforesaid constituting in common the food of both bird and fish. As the terns generally arrive on the coasts of the British islands about the 10th of May, is it not probable, from their appearance inland on the 8th of that month, that the westerly gales prevented them arriving at their accustomed quarters? hence their unusual appearance inland may be rationally accounted for.

The boldness of the terns' flight and eagerness in pursuit of their prey are striking features in their habits, while their incessant screaming when engaged in this necessary occupation cannot fail to attract the notice of the observant naturalist.

Such is the force with which the tern sometimes precipitates itself on its prey, that it is no unusual circumstance for the bird to disappear beneath the surface of the water, from which it is sure to emerge with its finny captive, for its aim is unerring. But as the habits of most of the aquatic tribe of birds are those of unmitigated rapine, the *Sterna stolidus* (black noddy), which is also a summer visitor to St. George's Channel, sometimes steps in to rob its more timid congener of its anticipated repast.

The flight of the noddy is extremely rapid, and it is so exceedingly shy, that I never could get a shot at one, though watching many times for a "chance." As I have never observed this bird on the main shore, which it seldom or ever approaches, it probably retires, after feeding, to some insulated rock to repose itself, without fear of interruption. It appears a solitary bird, never assembling in flocks like the *S. Hirundo*, but singly seeks its food at some distance from land, though it occasionally pursues its prey into the estuaries of the larger Irish rivers, or along the outer shores of the coast.

When the *S. Hirundo* have done feeding, they assemble in flocks of twenty or thirty in number on some sandy shore adjacent to their fishing quarters, where they stand or sit with their heads all pointed in the same direction, until returning appetite again impels them to renewed exertions for a fresh supply of food.

The *Sterna minuta* (lesser tern) is equally abundant on the shores of the British islands. Its habits are exactly similar in every respect to those of the *S. Hirundo*, and they are mostly found occupying the same localities as the larger species, with whom they live in peaceful fraternity.

I am, Sir, your obedient humble servant,

Bristol, June 4, 1842.

THOS. AUSTIN.

[The conflicting accounts of the two species of Terns seems only



another version of the old tale of the shield which was silver on one side and gold on the other; both observers are right, but each party seems to have become acquainted with only one side of the question. Mr. Austin writes as if he did not agree with Mr. Strickland—but both these Terns are summer visitors here—both were influenced by the same high winds, and both probably were obliged to steer for a time the same course.—ED.]

*On the Progress of the Silk-culture in the West Indies; and the advantage of the employment of Cold in the preservation of the Eggs of the Silk-worm\*.*

The eggs alluded to in the last report as obtained from Guadaloupe continued to hatch daily in small quantities, and at first appeared healthy, but soon showed signs of weakness, and few eventually came to maturity, and but a small number of cocoons were spun. Similar results attended the creole eggs of this island. At the latter end of October I visited Martinique, to ascertain the result of the use of an ice-house to preserve the eggs. Being favoured with an introduction to M. Vecoul, President of the Agricultural Society, &c., who takes a lively interest in the silk-culture, at his house I met M. Bouissett, who has for several years had to contend with similar difficulties to those I have had to contend with, and from him I ascertained that he had some time since arrived at the conclusion, that a degree of cold, approaching to freezing, was necessary for the eggs in order to obtain vigorous worms.

The colonial government of Martinique granted a sum of money sufficient to erect an ice-house on a large scale in the town of St. Pierre, at a cost of about 1000*l.* sterling; and under the supervision of M. Bouissett, chambers have been constructed in the interior of the building of various degrees of temperature for the reception of the silk-worm eggs, and he has found that the eggs wintered for three months commence hatching in about nine days, and in three days all are come forth as in the best-conducted establishments in Europe; and that the worms have proved uniformly healthy and vigorous, and in due time spinning excellent cocoons of great beauty, size and weight. This result is extremely satisfactory, as it removes at once all that has hitherto hindered success, and there is now every reason to think the silk-culture will prove a source of wealth to these colonies, as this has been the invariable result in every country in which it has hitherto been established. The fact that a degree of cold nearly approaching to the freezing point is essential to the egg in order to the production of a vigorous worm, does not appear to be known to the silk-culturists of Europe. It is very gratifying to me to be able to state, that I found the utmost willingness to impart information to me in Martinique, as I also did on similar occasions in Guadaloupe; and I have just heard from M. Bouissett, who informs me, that on accomplishing my proposed visit in the latter end of this

\* Extracted from despatches addressed to Lord John Russell.

month, he will be prepared to supply me gratuitously with an assortment of eggs sufficient for my first crop, and will then be able to make arrangements for supplying me regularly in future with eggs that have been wintered in the ice-house. I have also secured the privilege of placing any eggs that may come to me from Europe in their ice-house if necessary. I may here observe, that the few eggs I brought with me from the ice-house, although they had been there for a short time only, and were in several respects under unfavourable circumstances, yet afforded very gratifying results. Should no unforeseen hindrance occur, it is expected that eight crops of cocoons will be obtained here this year. The mulberries are healthy and full of leaf.

(Signed)

T. BURKE.

January 1, 1841.

Metcalfe Ville, July 27, 1841.

I have long been aware of the necessity of wintering silk-worm eggs; and in cases where we have been desirous of reproducing from the eggs of the same season in the United States, we have placed them on the ice. Our eggs are now in the ice-house in Kingston, from whence we shall withdraw them as we need them. I am happy to be able to say, that experience has more than confirmed my anticipations of entire success in raising silk for export from Jamaica. Our company is progressing steadily, and in due time (a few months) will export the first silk, to be followed by a crop per month, as the trees increase in strength.

(Signed)

SAMUEL WHITMARSH.

## FOSSIL INFUSORIA FROM THE CHALK OF SALISBURY PLAIN.

*To Richard Taylor, Esq.*

SIR,—Living as I do in the middle of the great chalk district of Salisbury Plain, Mr. Weaver's paper on the composition of chalk rocks and chalk marl, from the observations of Dr. Ehrenberg, has greatly interested me, and has led me to examine the chalk of this neighbourhood; and it occurred to me that, by taking advantage of the disintegration which chalk undergoes by exposure to moisture and frost, I should get perfect specimens of the various minute organic remains of which it appears to be composed. I have enclosed you some of the coarser particles of the chalk, obtained by washing the disintegrated chalk in the usual way in which the coarser particles of powders are separated from the finer.

This method answers most admirably, and when a small portion of the powder is mounted in Canada balsam, it forms a most beautiful object for the microscope. The larger forms may be as easily separated by the aid of a hand-glass as from the recent sea-sand containing analogous organic remains. It is probable, however, that the same idea has occurred to other observers, and in that case I trust you will forgive my ignorance: should any of your friends who are interested in these minute bodies wish for a supply, I shall be most happy to send them as much as they require from the various beds of this district; what I have enclosed is from the chalk technically called by our masons 'stone chalk,' of which all the inside and often

the whole of the walls of our houses are built, excepting the quoins\*. Hoping you will forgive the liberty I have taken in troubling you,  
Believe me to be your obedient Servant,

Bulford House, Amesbury, Wilts.

A. SOUTHBY.

#### TETRAO TETRIX.

*To the Editors of the Annals of Natural History.*

GENTLEMEN,—I have the pleasure of announcing to the ornithological readers of your Magazine the occurrence of a bird which is altogether new to this neighbourhood, *Tetrao tetrix*, Linn. A single example, a female, was shot on the 4th inst. in the Hebden Vale, about two miles from Hebden Bridge. On opening the stomach I found it to be filled with the flowers of *Geum urbanum*, *Rumex acetosa*, and a few of the capsules of the *Viola canina*. The specimen I have prepared, and placed it in my father's collection.

Heptonstall, June 8, 1842.

THOMAS GIBSON.

#### SOCIÉTÉ GÉOLOGIQUE DE FRANCE.

We are able to inform our readers, that the great Annual Meeting of the French Geologists will take place this year on Sept. 4th, at Aix (dept. Bouches du Rhône), and we have no doubt will be attended by a vast number of foreigners, attracted both by the beauty and geological interest of the neighbourhood.

*Investigation of the Anoplura, or Insects of the Genus Pediculus of Linnæus.*

It will perhaps be in the recollection of our readers, that at the last meeting of the British Association a sum of £50 was placed in the hands of a committee of zoologists to forward the publication of Mr. Denny's proposed work on the British Species of Lice. This work has now appeared, and amply proves the propriety of the grant in question. Figures of about 210 species, highly magnified, beautifully coloured and drawn with Mr. Denny's well-known skill, are given in the volume which has just appeared. Of these species *nearly one half are new to science*, and nearly three-fourths to the British fauna. Our object, however, in mentioning the work in this place, is to express a hope that the present Meeting of the British Association will not close without renewing the grant, (especially as so small a sum has been allowed to the Zoological Section,) as it is known to most of the members that Mr. Denny possesses a great store of materials, derived chiefly from exotic animals, of whose parasites we necessarily know still less than of those of our own country.

J. O. W.

#### FOSSIL CRINOIDEA.

Our correspondent, T. Austin of Bristol, informs us that he intends publishing by subscription 'A Monograph of Fossil Crinoidea,' in

\* The specimens have engaged the attention of the Microscopical Society (see p. 430). And we shall be very glad to avail ourselves of Dr. Southby's kind proposal, in order to forward some portion to Prof. Ehrenberg, who is now engaged in publishing a work on Fossil Infusoria from the various quarters of the globe.—EDIT.



which many new and important genera and species will be for the first time figured and described, and their geological range and distribution defined. The work, which is to appear in numbers, will we doubt not meet with the approbation of geologists.

*Works just published.*

The Botanical Looker-out among the Wild Flowers of England and Wales, forming a monthly Guide for the Collecting Botanist. By Edwin Lees, F.L.S., &c.

The Pictorial Catechism of Botany. By Anne Pratt.

On the Growth of Plants in Glazed Cases. By N. B. Ward, F.L.S.

Algæ maris Mediterranei et Adriatici. Auctore Jacobo G. Agardh.

Cycle of the Seasons of Britain. By L. Howard, F.R.S.

Lectures on Animal Physiology. By B. J. Lowe.

Systematic Zoology. Grammar and Synopsis of Natural History. By James Wade.

METEOROLOGICAL OBSERVATIONS FOR MAY 1842.

*Chiswick.*—May 1, 2. Clear and very dry. 3, 4. Very fine. 5. Cloudy: heavy rain. 6. Fine: showery. 7. Rain: stormy showers. 8. Cloudy: stormy. 10, 11. Very fine. 12. Drizzly. 13—15. Slight haze in the mornings: very fine: clear at night. 16, 17. Very fine: clear. 18, 19. Overcast. 20. Densely clouded. 21. Cloudy and fine. 22. Cloudy and fine: slight rain. 23. Cloudy. 24. Rain. 25. Rain: overcast. 26. Rain: cloudy: clear at night. 27. Cloudy and fine. 28. Very fine. 29, 30. Clear and very fine. 31. Very fine: cloudy.

*Boston.*—May 1, 2. Fine. 3. Cloudy. 4. Fine. 5, 6. Fine: rain P.M. 7. Cloudy: rain A.M. and P.M. 8. Windy. 9—11. Fine. 12. Rain. 13. Fine. 14. Foggy. 15, 16. Fine. 17—19. Cloudy. 20. Rain. 21, 22. Cloudy. 23. Fine. 24. Rain: rainy day. 25. Cloudy. 26. Rain: rain early A.M. 27. Cloudy. 28. Fine: rain early A.M. 29. Fine. 30. Cloudy. 31. Fine.

*Sandwich Manse, Orkney.*—May 1. Clear: fog. 2. Cloudy: clear. 3. Clear: cloudy. 4. Cloudy: damp. 5. Cloudy: rain. 6. Bright: cloudy. 7. Cloudy: thunder. 8. Showery. 9. Cloudy. 10. Rain: clear. 11, 12. Cloudy. 13—15. Clear. 16. Clear: fog. 17. Fog cloudy. 18. Cloudy. 19. Cloudy: drizzle. 20. Cloudy: shower. 21. Bright: shower. 22. Clear. 23. Clear: fog. 24. Clear: cloudy. 25. Cloudy: damp. 26. Bright: cloudy. 27. Bright: shower. 28. Bright: cloudy. 29. Cloudy: showery. 30. Bright: cloudy. 31. Bright.

*Applegarth Manse, Dumfries-shire.*—May 1, 2. Dry and withering. 3. Cloudy. 4. Fine. 5. Cloudy, with rain. 6. Showery. 7. Wet day. 8. Showers A.M.: cleared. 9. Fair, but cool. 10. Fair, but threatening. 11. Showery. 12—17. Fair and fine. 18. Fair and fine, but cloudy. 19. Fine rain P.M. 20. Rain and hail. 21. Fair and fine. 22. Showery. 23. Showery: growing weather. 24. Showery. 25. Fair and fine. 26. One shower: fine P.M. 27. Fair and fine. 28. Fair till noon: then rain. 29, 30. Showers. 31. Slight showers.

Sun shone out 29 days. Rain fell 12 days. Thunder 2 days. Hail 1 day.

Wind North-east 1 day. East 3 days. East-south-east 1 day. South-east 5 days. South-south-east  $4\frac{1}{2}$  days. South 5 days. South-west  $4\frac{1}{2}$  days. West-south-west 4 days. West  $1\frac{1}{2}$  day. North-west  $1\frac{1}{2}$  day.

Calm 7 days. Moderate 14 days. Brisk 2 days. Strong breeze 6 days. Boisterous 2 days.

Mean temperature of the month ..... 52°·8

Mean temperature of May 1841 ..... 52·2

Mean temperature of spring-water ..... 46·8

Mean temperature of spring-water, May 1841 ... 49·3

*Meteorological Observations made at the Apartments of the Royal Society, LONDON, by the Assistant Secretary, Mr. Roberton; by Mr. Thompson at the Garden of the Horticultural Society at CHISWICK, near London; by Mr. Veall, at Boston; by the Rev. W. Dunbar, at Applegarth Manse, DUMFRIES-SHIRE; and by the Rev. C. Clouston, at Sandwick Manse, ORKNEY.*

Days of Month.		Barometer.						Thermometer.						Wind.				Rain.				Dew-point.	
1842. May.		Chiswick.		Dumfries-shire.		Orkney-Sandwich.		London: R.S.		Chiswick.		Dumfries-shire.		Orkney-Sandwich.		London: R.S. & a.m.		Chiswick.		Dumfries-shire.			Orkney-Sandwich.
Hoy, &c.		Max.	Min.	8 a.m.	9 a.m.	9 1/2 a.m.	8 1/2 p.m.	Self-reg. Mx.	Min.	Max.	8 a.m.	Max.	Min.	9 a.m.	8 1/2 p.m.	London: R.S. & a.m.		Chiswick.		Dumfries-shire.		Orkney-Sandwich.	
1.	30-002	30-007	29-033	29-553	30-005	30-009	30-023	30-024	59-3	69-6	47-6	73	44	57	66	43	n.	e.	.....	.....	.....	ne.	se.
2.	30-084	30-022	29-062	29-559	30-010	30-000	30-016	30-004	57-3	67-7	47-8	60	30	57	68	48 1/2	ne.	ne.	.....	.....	.....	ese.	se.
3.	29-986	29-967	29-854	29-947	29-874	29-850	29-902	29-884	50-2	62-5	42-0	71	46	56	64	47	wnw.	nw.	.....	.....	.....	se.	se.
4.	29-950	29-907	29-892	29-933	29-778	29-750	29-821	29-811	53-7	66-4	49-3	63	33	55	62	45	s.	n.	.....	.....	.....	ws.	w.
5.	29-904	29-886	29-530	29-924	29-750	29-721	29-815	29-805	56-8	67-8	47-6	63	46	58	66	50	s.	sw.	.....	.....	.....	sw.	sw.
6.	29-438	29-423	29-376	28-777	28-702	28-687	29-002	28-981	55-3	61-8	50-0	63	41	55	55	48	w var.	sw.	.....	.....	.....	sw.	sw.
7.	29-340	29-322	29-107	28-877	28-877	28-877	28-877	51-7	62-3	49-0	63	46	51	51	45	45	w.	w.	.....	.....	.....	w.	w.
8.	29-416	29-706	29-382	28-880	29-006	29-006	29-006	54-2	62-0	48-4	63	41	55	55	42	45	w.	n.	.....	.....	.....	w.	w.
9.	30-048	30-064	30-802	30-900	29-800	29-800	29-800	51-3	61-6	46-4	64	32	53	53	34	51	e.	calm	.....	.....	.....	calm	calm
10.	30-218	30-172	30-086	30-669	30-002	29-900	30-004	29-998	52-0	60-5	41-8	64	35	53	53	47	sw.	calm	.....	.....	.....	sw.	sw.
11.	30-000	29-906	29-842	29-444	29-773	29-773	29-901	29-901	57-3	61-0	46-2	65	44	57	59	50	e.	calm	.....	.....	.....	sw.	sw.
12.	29-948	29-984	29-920	29-445	29-862	29-900	30-000	30-002	46-3	64-8	46-0	51	37	48	53	47	nw.	calm	.....	.....	.....	sw.	sw.
13.	30-082	30-078	30-030	29-445	29-902	30-001	30-007	30-004	57-7	67-0	47-6	70	36	53	60	48 1/2	s.	calm	.....	.....	.....	sw.	sw.
14.	30-200	30-230	30-138	30-677	30-008	30-114	30-116	30-204	53-2	64-2	48-4	72	38	51	63	50	w.	calm	.....	.....	.....	sw.	sw.
15.	30-408	30-387	30-341	29-555	30-304	30-307	30-304	30-307	55-7	64-4	48-0	73	36	58	68	58	e.	calm	.....	.....	.....	sw.	sw.
16.	30-436	30-390	30-307	29-877	30-308	30-311	30-303	30-305	57-8	64-3	48-7	68	42	63	72	45	n.	calm	.....	.....	.....	calm	calm
17.	30-314	30-278	30-189	29-790	30-307	30-307	30-303	30-301	52-8	66-5	45-7	68	43	50	63	49	n.	calm	.....	.....	.....	calm	calm
18.	30-072	30-046	29-011	29-552	30-002	29-84	30-13	30-003	50-7	60-3	47-8	69	40	52	67	41	e.	calm	.....	.....	.....	calm	calm
19.	29-834	29-807	29-711	29-332	29-70	29-58	29-93	29-908	53-8	57-0	47-6	63	36	51	57	48	sw.	calm	.....	.....	.....	calm	calm
20.	29-706	29-658	29-646	29-005	29-37	29-37	29-68	29-53	57-0	70-3	47-0	63	49	46	60	49	sw.	calm	.....	.....	.....	calm	calm
21.	29-730	29-724	29-676	29-20	29-67	29-50	29-56	29-70	56-7	62-3	51-3	61	41	55	53	51	sw.	calm	.....	.....	.....	sw.	sw.
22.	29-798	29-748	29-674	29-29	29-60	29-60	29-75	29-80	57-8	69-0	49-8	65	42	59	60	50	sw.	calm	.....	.....	.....	sw.	sw.
23.	29-854	29-857	29-785	29-23	29-62	29-76	29-89	29-91	57-3	75-3	51-4	64	43	57	61	48	sw.	calm	.....	.....	.....	sw.	sw.
24.	29-882	29-834	29-790	29-23	29-63	29-79	29-76	30-04	53-3	64-6	52-7	65	40	54	59	48	sw.	calm	.....	.....	.....	sw.	sw.
25.	29-904	29-845	29-845	29-27	29-61	29-70	29-80	29-86	56-2	60-0	47-6	63	48	51	59	47	s.	calm	.....	.....	.....	sw.	sw.
26.	29-806	29-823	29-767	29-22	29-61	29-70	29-80	29-86	56-2	61-6	51-2	66	47	55	62	43	s.	calm	.....	.....	.....	sw.	sw.
27.	29-980	29-920	29-911	29-31	29-71	29-78	29-73	29-80	61-3	68-4	52-0	68	51	61	61	53	nw.	calm	.....	.....	.....	sw.	sw.
28.	30-050	30-066	29-988	29-38	29-81	29-68	29-73	29-77	57-5	68-4	54-0	70	41	56	60	53	sw.	calm	.....	.....	.....	sw.	sw.
29.	30-181	30-124	29-991	29-48	29-86	29-72	29-73	29-76	61-8	78-3	51-2	71	46	62	60	54	sw.	calm	.....	.....	.....	sw.	sw.
30.	30-010	30-050	29-955	29-23	29-68	29-75	29-58	29-75	62-3	69-6	53-7	73	46	63	58	50	sw.	calm	.....	.....	.....	sw.	sw.
31.	30-192	30-155	30-118	29-45	29-96	30-03	29-87	30-00	60-7	73-0	53-7	73	41	61	60	51	sw.	calm	.....	.....	.....	sw.	sw.
Mean.	29-958	29-952	29-857	30-01	29-44	29-44	29-842	29-844	55-5	64-9	48-8	65-37	41-51	54-8	62-4	44-1	Sum.	1-73	2-48	2-58	0-98	Mean.	50
																							934